



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,869	10/20/2000	William T. McHugh	08935-218001 / M-4926	6097

7590

06/14/2002

ROBERT C. NABINGER
Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804

EXAMINER

MARTIN, ANGELA J

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 06/14/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/692,869

Applicant(s)
McHugh et al.

Examiner
Angela J. Martin

Art Unit
1745



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 20, 2000
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s), 4 and 6 6) ☐ Other:

Art Unit: 1745

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-13 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hull et al., U.S. Pat. No. 6,265,104 B1, in view of Ward et al., U.S. Pat. No. 6,197,445 B1.

Rejection of claims 1-13 and 21-25 drawn to a battery:

The instant claims 1-13 and 21-25 are drawn to a battery.

Hull et al., teach a battery comprising a can having a rectangular cross-section (col. 6, lines 35-41), closed end and an open end, a cathode in the can, anode in the can, separator between the cathode and anode, and a seal assembly attached to the open end (col. 1, lines 50-67). Additionally, it teaches an air access opening (col. 1, lines 36-37), wherein the cathode comprises manganese oxide (col. 3, lines 33-43), and the anode comprises zinc (col. 5,

Art Unit: 1745

lines 9-14). It also teaches the seal assembly comprises a seal, an end cap, and a current collector attached to the cap (col. 3, lines 50-63) and the battery is a metal-air battery (col. 1, lines 50-51); it also comprises a conductive hot melt material between cathode and can (col. 1, lines 65-67). Additionally, it teaches a barrier layer comprising polytetrafluoroethylene between the cathode and can (col. 3, lines 34-41) and the cathode and can define an air plenum between them (col. 1, lines 37-38).

Hull et al., do not teach the can has a square cross-section or a triangular cross-section.

Ward et al., teach a metal-air cell which can have a cross-section which is rectangular, square, triangular (polygonal) (col. 7, lines 28-35).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Ward et al., into the teachings of Hull et al., because Ward et al., teach that metal-air cells "can have a variety of cross-sectional shapes, including any closed-perimeter cross-section." (col. 7, lines 28-35). This variety of cross-sections provides more flexibility in the application of the metal-air battery.

4. Claims 14-20 and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Hull et al., U.S. Pat. No. 6,265,104 B1, in view of Ward et al., U.S. Pat. No. 6,197,445 B1.

Rejection of claims 14-20 and 26 drawn to a method:

The instant claims 14-20 and 26 are drawn to a method of making a metal-air battery.

Hull et al., teach a method of making a metal-air battery comprising placing a cathode tube in a can , placing an anode in the can, placing a seal assembly in the can and sealing a portion

Art Unit: 1745

of the can over the seal assembly, and a separator between the cathode and anode (col. 4, lines 47-59), placing a conductive melt in the can (col. 4, lines 33-34), placing a barrier layer around the cathode tube (col. 3, lines 37-41). Additionally, it teaches placing a non-conductive melt between the cathode and seal assembly and connecting the cathode tube to the can with a tab (col. 3, lines 50-63); also, crimping the can over the seal assembly (col. 6, lines 24-27).

Hull et al., do not teach a method of making a can having a rectangular cross-section or a triangular cross-section.

Ward et al., teach a method of making a metal-air cell which can have a cross-section which is rectangular, square, triangular (polygonal) (col. 7, lines 28-35).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Ward et al., into the teachings of Hull et al., because Ward et al., teach that metal-air cells "can have a variety of cross-sectional shapes, including any closed-perimeter cross-section." (col. 7, lines 28-35). This variety of cross-sections provides more flexibility in the application of the metal-air battery.

Examiner Correspondence

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Angela J. Martin whose telephone number is (703) 305-0586. The Examiner can normally be reached on Monday - Friday from 8:00am to 4:00pm.

Art Unit: 1745

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Patrick Ryan, can be reached at (703) 308-2383.

In order to transmit an unofficial fax, the number is (703) 306-3186. In order to transmit an official fax/non-final, the number is (703) 872-9310. In order to transmit an official fax/after final, the number is (703) 872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

AJM


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700